

# Avec Mobile

## Special Issue Digital Cameras

Practical advice on mobile devices

November 2004



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Special Issue  
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A guide to  
digital cameras  
for the whole  
family

Find your  
perfect digital  
camera in six  
easy steps

The gear you  
need for  
printing photos  
at home

Traveling with a  
digital camera  
& how to store  
all the photos

Find out more about mobile phones, digital cameras, MP3 music players, PDAs, camera phones, health and fitness products, software, Bluetooth and networks on the Avec Mobile Internet pages:

# Six steps to finding the perfect digital camera

If you have decided that it's time to get a digital camera, you are not alone. The majority of camera shoppers are choosing a digital camera instead of a film camera and electronics shops are flooded with digital cameras. The vast selection of cameras may feel overwhelming, but our six step guide will help you to find a digital camera that suits your needs.

First, let's clarify what megapixels or optical and digital zoom really mean, as they are extensively used in advertising. Mega-pixel is an abbreviation of a 'million picture elements'. Pixels capture light waves coming in from the camera lens, and together with the camera software, they compose the image. More pixels mean larger photographs, but it doesn't necessarily mean better photos. The technical quality of a photo is a matter of optics, electronic sensors and imaging software in the camera.



The principle of optical zoom is the same in digital cameras as they are in film cameras. Fine optics are used to magnify objects with little or no effect to the image quality. Digital zoom, on the other hand, refers to a camera software function, which magnifies objects by adding pixels into the area being zoomed in on, and by doing so, deteriorates the image quality.

## Avec Mobile

*Special Issue on Digital  
Cameras*

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## Six easy steps

### 1. How do you intend to use the photos?

If you will print (or let the local photo shop print) your photos, you will need a camera with enough megapixels. The minimum needed is a two megapixel camera that gives you 10 x 15 cm or 4 x 6 inch print-outs in high quality. A three megapixel camera can produce an A4 or Letter size, and a six megapixel camera produces a two-page print out in high quality.

If you will primarily view and manage your photos on a computer to email them or post them on Internet pages, you can get by with less megapixels. For instance, a two megapixel camera captures a photo of 1600x1200 pixels, which is plenty more than a good quality monitor can display at 1024x768 resolution. Yet, it is perfectly all right to shoot higher resolution photos, because they can be scaled down without a loss in quality. In addition, practically all digital cameras let you capture images in smaller sizes than the best they are capable of.

### 2. What size should the camera be?

Credit card size cameras certainly are small, but they are generally not good enough to serve as the only camera for a family. Pocket-size cameras can produce excellent photos, but they lack the zoom and advanced functionality some photographers want. Compact-size cameras offer plenty of variety: a choice of megapixels, functionality and zoom length in different price categories. Large cameras come with great optics and functionality, and some models don't cost more than compact cameras.

### 3. Do you want a zoom lens that brings faraway objects closer?

The more optical zoom you want, the more expensive the camera will be. An optical zoom that is capable of magnifying an object three times (about the same as 35mm - 105mm lens in a film camera) can still be packaged in pocket-size or compact-size camera, but lenses with better zoom tend to require a bigger camera body.

### 4. Do you want to take photos with manual settings?

All digital cameras come with built-in software that automatically sets the correct values for shutter speed, aperture and other photography elements. If you know how to take better photos by managing the settings yourself, choose a camera that allows it. You have to pay a little extra, but then, you don't have to pay for the film you would have to waste in practicing the art of photography.

### 5. Which language?

If English isn't one of the languages you fluently use, look for a camera that comes with a user guide in your own language. Even if the camera menus are in English, you should be fine with the translated user guide. Snapping simple holiday photos in outdoor conditions is easy with any digital camera's automatic program and there's rarely a need to consult the user guide.

### 6. Are you still in the price range you had budgeted?

If you can afford to spend more, look for cameras with manual settings, better optical zoom and more megapixels. If you need to save, start from step one and reconsider the points that are important to you. Cutting down the number of megapixels is one of the easiest ways to save without losing functionality.

## Recommendations for other features

Rechargeable battery	There is no reason why a digital camera shouldn't be powered by a rechargeable battery. Avoid models that come with disposable batteries or make sure you can get a charger and lithium-ion batteries as accessories. It'll be more economical and convenient in the long run.
TV connection	This is a feature for busy families that allows the camera to be connected directly to a TV. Although you can only browse photos that are still inside the camera, family members can sometimes be so impatient to see your new photos that they don't want to wait for you to transfer them to a computer, but want to view the photos on the TV screen straight away.
Memory card type	The card type matters only if you expect to snap plenty of photos and you need to purchase more than one or two memory cards. Sony Memorystick is at the high end and the old CF (Compact Flash) is at the low end of the price scale.
Cradle	Some new camera models come with a cradle where you can insert the camera for transferring the photos to the computer, while the camera recharges. This is a nice feature, but shouldn't determine the purchase decision.



Once you have identified how you intend to use your photos and what type of photos you want to shoot, choosing the right digital camera becomes easy. Choosing the camera brand (or any product brand, for that matter) can be a highly subjective decision, but the brief history of digital photography has shown that established camera manufacturers who were the first to start working with digital imaging are constantly scoring the highest points in digital camera tests and reviews.

*Serious photographers need serious accessories: a ladder allows a photographer to try out new angles for portraits. A flashlight that can be attached to the camera by a cable can make better contrast to the photos snapped indoors.*



## The right price for a digital camera

An unprepared digital camera shopper maybe overwhelmed by the choice of available models in electronics stores. Manufacturers of traditional film cameras, computer vendors and consumer electronics manufacturers have all rushed their products into shops. In order to survive, set yourself a price/functionality level that meets your needs and explore models in that specific category in more detail. Here is an overview what you can expect to find.

Price range Euros	Common features	Sample products
<b>Under 150</b>	Up to 1.3 megapixels, no zoom, no memory card. Auto settings only, USB connection. Credit card or pocket size.	Benq DC1300, Creative CardCam, Logitech Pocket (in the picture). 
<b>150 - 300</b>	2-4 megapixels, 0-3 times optical zoom. Removable memory card, typically auto settings only, USB connectivity. Physical size: pocket or compact.	Fujifilm Finepix A210 (in the picture), HP Photosmart 635, Olympus Camedia C-350. 
<b>300 - 500</b>	3-5 megapixels, 3 x optical zoom. Manual and auto settings (not in every model). Memory card, USB connection, video/TV connection. Size: compact or pocket.	Canon Ixus 430 / Powershot 430 (in the picture), Nikon Coolpix 5200, Pentax Optio S4. 
<b>500 - 800</b>	4-6 megapixels, 3-8x zoom. High-quality lens, fast operation. USB and TV connections. Some models come with remote control and audio capability. Size: pocket, compact, or SLR.	Canon Powershot G5, Fujifilm Finepix S20 Pro, Minolta Dimage A2. 
<b>Over 800</b>	6-13 megapixels. Professional quality equipment, changeable lenses. USB, video, remote control, Firewire. SLR size.	Canon EOS 300D, Nikon D100, Cyber-shot DSC-F828 (in the picture). 

# Ten tips for enjoying digital photography with your child

by Zach Sorrels



Once children realize how easy it is to snap photos on a digital camera, instantly view images on the screen and watch photo slideshows on a computer monitor or on a TV, questions will be asked. Why can't I take daddy's new camera to the beach? When can I have my own camera? Be prepared - and enjoy the marvels of digital photography with the whole family.

## 1. Separate memory cards.

A good way to start is to have a single camera for the whole family. If you do this, give each child his own memory card. This protects your pictures from your child while giving everyone a little privacy. Also, when images are transferred to the computer, they are automatically catalogued in separate folders so everyone can keep track of their pictures.

## 2. Consider kid-friendly cameras.

As digital cameras are less expensive than ever before, it's becoming a real option to give your 7-year old his own camera. Popular kids' cameras that cost less than USD100 are, for example, the Barbie Photo Designer

Camera, Cool-iCam, the Nick Click Digital Camera, and the KB Gear JamCam. If you do decide to buy a kids' digital camera you need to watch out for a few things:

- ❖ Look for a camera that uses a memory card. If the camera doesn't have a removable memory card, it probably means that it will only hold 10-15 photos before they need to be copied onto a computer.
- ❖ Check for a flash - this improves the quality of indoor photos.
- ❖ Find a camera that uses a USB for computer connectivity, not a serial connection. The download speed is significantly faster over USB.
- ❖ Buying a normal entry-level camera has its advantages. You can find a variety of basic digital camera models priced between \$50 and \$100. If you find a camera that uses the same memory card type as your own camera, you can recycle your old small capacity cards to your offspring.



Cool-iCam

### 3. Find kid-friendly software.

Part of what makes a digital camera so much fun is what you can do with the images once they are on the computer. Most digital cameras come with their own photo management software, but if you're not satisfied with it, or want something special for the kids, here are some sample products:

- ❖ *Microsoft Digital Image Suite 10*: This suite's best quality is its variety of features. Especially great for kids is Photo Story 2.0. It lets you turn still photos into a multimedia presentation, where you can also add narration and background music to create awesome mini-videos.
- ❖ *Barbie Digital Makeover* is good for little girls who like to play dress-up. It is a simple photo management suite with a *Barbie* theme.
- ❖ *Nick Click* is a Nickelodeon -themed suite that is great for boys and girls. *Nick Click* has all the basic features you would expect, and one highlight is the ability to put images on 3-D bodies and turn that character into a participant in a video game - a huge hit with kids.
- ❖ The *Jam Cam* system is a bit more advanced and better for slightly older kids. What the *Jam Cam* system lacks in themed characters, it makes up in quality and capabilities while maintaining solid entertainment value.

### 4. Zoom.

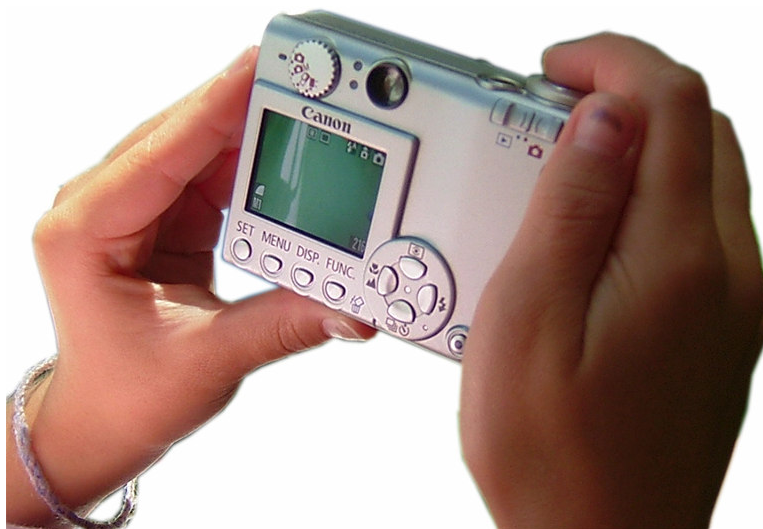
Zoom is cool... especially for kids. A camera with zoom capability may not increase the photographer's artistic potential to new heights, but it is something to explore and just have plain fun with.

### 5. Accessorize.

Whether you get your child his own camera or you let him use yours, it's wise to invest in some protective accessories. Make sure you have a nice, well-padded carrying case with a wrist strap.

### 6. The camera menu system is off limits for kids.

If your children are not thoroughly familiar with the camera, it's relatively easy to delete images, change settings and just generally foul things up in the menu system. To avoid this, just keep the menu off limits for kids. But, for many kids this is as good as an invitation to get into it, so better yet, teach your child how to use the menu system properly. If you provide your kids with their own camera, you don't have to worry about this.



### 7. Steer clear of Internet photo albums.

There are several websites where you can place images for the rest of the world to see. Don't let your kids share any photos on these sites without your supervision. There are plenty of software products that let you view your photos off-line. Popular software products available for download for free are Irfan View, StudioLine Photo Basic, and HP Image Zone Express to name just a few. If your child wants to share his photos, encourage him to e-mail them (just be careful with large images that may block the recipient's mailbox!), or use photo sharing sites that have secure viewing capabilities.

**8. Make practice time family time.**

Take some time with your child to practice snapping pictures, transferring the files to the computer, organizing them and printing them. Spend an hour or two just playing around with the camera at a park, the zoo, or around the city. This can be a lot of fun and it teaches your child how to use the camera properly and you'll probably learn a lot too.

**9. Kids will be kids.**

If you get a kids' camera or an inexpensive starter camera and something happens to it, it's sad, but not the end of the world. However, if you let your child use a more expensive model, it's wise to have some protection. If you have homeowner's insurance, check to see if your camera is covered.

**10. Don't hog the camera... and that goes for you too!**

If you decide to have one family camera remember to play nice and share. A digital camera is fun for all kids aged between 5 to 95 years. Once you get hooked, you may have a hard time putting the camera down, so just remember to give the kids a turn too.

## How to print photos from a digital camera

Printing digital photos at home is a fairly straightforward task if you master the basics of using a computer, but how do you print digital photos if you don't want to use a computer? Your best bets are getting a digital camera and a printer that can be connected by a cable, using Bluetooth wireless connection for printing, or getting a printer that can read digital camera memory cards.

**PictBridge: direct cable connection from a digital camera to a printer**

Earlier, it was possible to connect a digital camera to a printer by cable only if both the digital camera and printer were from the same manufacturer and both models supported cable connections. The good news is that these same manufacturers have agreed on PictBridge technology, which allows digital cameras and printers of any brand to connect to any PictBridge compliant printers. The bad news is, not all cameras and printers support PictBridge yet, but the number of products is steadily growing.



When you want to print photos, you simply hook the USB cable from a PictBridge-certified digital camera to a compatible printer. You can then see what type of images the printer can process on the digital camera's screen and using the camera's control keys, you specify which photos you want to print.



PictBridge allows you to define the size of the printed photos, the number of copies, the number of photos per page, borders, dates and many other useful things.

You can find an updated list of cameras and printers that have been certified as PictBridge-compatible at the PictBridge web site: [http://www.cipa.jp/pictbridge/index\\_e.html](http://www.cipa.jp/pictbridge/index_e.html).

*Left: The PictBridge logo on a printer indicates compatibility with PictBridge digital cameras. Next to the logo a USB port, where you can stick the cable directly from your camera.*

## Bluetooth wireless printing

Some digital cameras, such as the new model made by Concord, and several printers, like HP Deskjet 450 and Deskjet 995c come with built-in wireless connectivity. Bluetooth has become a popular technology for close range wireless communication between devices and peripherals, and it can be used for printing images directly from digital cameras as well. A Bluetooth signal reaches about 10 meters (30 feet) at the standard speed of 712 Kbs.

Bluetooth is useful for data transfers between mobile phones and computers, but using Bluetooth as the primary means of sending photos from a high-resolution digital camera to a printer is slow compared to the USB connection. On the other hand, you will be able print without the hassle of connecting cables.

However, using Bluetooth for printing photos from camera phones, smartphones and PDAs works well because the images are fairly small and many of these devices already come with Bluetooth. You only have to download a piece of software into your camera phone for managing the print jobs.



*The Nokia 3650 camera phone can print to a HP Photosmart series 300 printer over Bluetooth.*

## Printing from a memory card

If you have a printer that is equipped with a memory card reader, you don't have to worry about cables or wireless connections. You only need to remove the memory card from the camera and stick it in a

slot in the printer. There may be several slots in the printer's front or side panel for reading different types of memory cards.

When the card is in the slot, you use the printer's control panel for managing the print jobs. Up to this point, the task has been simple, but now comes the hard part: deciding which photos to print if you can't see them.



That's why it is important to get a printer that has a screen, which can display at least some kind of color images. Another common method is to print out a sheet of thumbnail photos, mark the photos, scan the sheet, and the printer will print the marked photos.

All major manufacturers have introduced printers that read memory cards, and also some laptop computers, for instance, from HP, are available with built-in memory card readers.

*Left: Memory card slots in a printer for reading photos directly from the memory card. If you have a new printer, take one more look at it, the slots maybe hidden behind a small door, as is the case here.*

## Take backup copies of your photos - prints won't last forever

It is possible to manage digital photography totally without a computer, but it is not easy. Even though you would be sure that you will view your photos only on paper, making backup copies of digital photos stored on memory cards is important. Regardless of how large the capacity of your memory cards is, you have to empty the cards every once in a while for making room for new photos and that leaves you only with paper copies. So in addition to a good printer, you should invest in a portable CD burner or a multimedia player that can read digital camera memory cards.

You don't have to be print photos at home; photo labs can print them from your memory cards as well. Another option, which requires a computer, is to save your photos on an online photo album, such as Webshots or Shutterfly and order prints from there.

*Right: Upload your photos on an online photo album, order prints of your favorite photos and wait for them to be delivered home.*

Although digital cameras may encourage you to snap plenty of photos, it is not wise to let a photo lab print all the photos stored on a memory card. See your digital camera's user guide for information about DPOF (Digital Print Order Format). If your camera supports DPOF, you can mark the photos that you want printed and how many copies of each photo you want. This information is automatically saved with the photos and is used by the printer.



EXIF (Exchangeable Image File Format) is a set of useful technical information about digital photos. Most digital cameras automatically save EXIF information in the photo file, recording values such as camera model, number of pixels, shutter speed, aperture, date and time. If you are interested in seeing the values, most imaging software products, such as IrfanView and Adobe Photoshop Elements can show them to you.

### The best printing solution for you

Each solution for printing directly from a digital camera has its benefits. PictBridge is fast, because it uses a USB cable, gives good control over the photos to be printed and you can use the camera screen for managing the print jobs. PictBridge also lets you connect digital cameras and printers from different manufacturers as long as they are PictBridge compatible.

Bluetooth is a great technology for transferring information between camera phones, smartphones, PDAs and their peripherals. Printing photos from camera phones over Bluetooth works well as long as the photo sizes are reasonable.

Sticking a memory card full of photos in a printer's card reader slot is a straightforward thing to do, until you have to decide which photos to print. Look for printers with a good screen for viewing photos and a clear menu system to manage the printing.

### Traveling with a digital camera

What a delight it is to set off on a journey, take a digital camera along and shoot as many photos as the heart desires. If you are not carrying a laptop computer with you to unload photos from the camera's memory card to the hard disk and the trip will last so long that the memory card won't be able to store all your precious photos, you have a problem. Simply buying a stack of expensive memory cards is not always the most sensible thing to do, especially when there are great portable products and convenient services that allow you to take care of the situation.

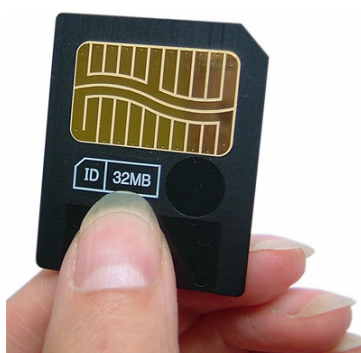


Options for storing and managing digital photos snapped during a trip are: a laptop computer, extra memory cards, a portable CD burner, a pocket-size multimedia player & storage device, or relying on Internet café and photo lab services.

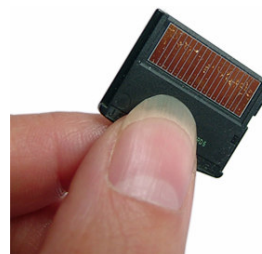
## Memory cards

You should already have at least two memory cards: a small capacity card that came with the camera and a larger one that you have bought for normal use. For estimating the need for extra memory cards, let's take an example: the larger capacity card has a storage capacity of 64MB. If you are taking two megapixel photos, then one photo will occupy 0.5MB - 1MB of memory space, depending on the image. This means that you'll be able to store about 100 print-quality photos on the memory card, which is roughly the same as 3 rolls of 36 exposure film or four rolls of 24 exposure film.

The need for storage capacity doesn't grow as fast as the number of megapixels in the image. For example, a 6 megapixel photo taken on a high-end camera can be stored in 1.5MB space as a compressed JPG image, which is the default format in digital cameras. In this case, the 64MB memory card could store about 40 high-quality 6 megapixel pictures.



*Left: Smartmedia  
memory card*



*Right: Xd memory  
card*

512MB is one of the largest commonly available memory card sizes for cameras using Compact Flash, Memorystick, SD and xD cards. The 512MB cards are selling for USD 150 - 200, depending on the type. A number of memory cards with gigabyte (GB) capacity have also been made available, but the price is still quite high.

## Laptop computer

If you are traveling with a laptop computer, you don't have to worry about storage space for photos. However, laptop computers that are regularly taken on travels are prone to accidents, and those travelers who want to play it safe should regularly back up the contents of the folders where the photos are stored. The most reliable backup method in mobile computing is to use CDs. If your laptop's CD drive can't write CDs, you might consider getting an USB-connected external CD writer or an external hard disk. An MP3 player with a large capacity hard disk can also be used as backup storage.



## Portable CD burners

There are portable CD burners that have been designed with photographers in mind. You can stick a memory card into the device and burn CDs from the contents of the memory card. CD burners are good value for a serious photographer because they cost less than the largest capacity memory cards and provide endless storage space for the price of empty CDs.



*Apacer Disc Steno CP200*

Micro Solutions RoadStor is an example of portable CD burners, priced at around USD 250. It is a battery-powered CD burner, which reads common memory cards. RoadStor can be connected to a TV for viewing the photos on a TV screen.

Apacer Disc Steno CP200 is another example, its price hovering at around USD 250. The product reads common memory cards (except for xD), burns CDs, and can be connected to a TV for viewing photos. This product has been designed with mobility in mind, as it can draw power from a car power adapter, the built-in battery or from an AC adapter.

## Multimedia player & photo storage devices



*Archos Gmini 220: slightly larger than a deck of cards.*

The Archos Gmini 220, with price ranging between USD 250-350, is one of the smallest MP3 players with a built-in hard disk. 20GB of storage space is sufficient for an average family's CD collection and thousands of photos. Archos 220 features an MP3 player, large gray-scale screen, memory card reader and a USB connection. It can only read CompactFlash cards and FM radio comes as an add-on option. If you are considering getting an MP3 player, this type of product is an excellent choice because it gives you everything: a music player, photo viewer and plenty of storage space.

Other products with similar functionality to Archos are Epson P-2000 Multimedia Storage, Nikon Coolwalker MSV-01 and SmartDisk 40 GB FlashTrax. The Epson P-2000 comes with a large, sharp color screen and a 40GB hard disk. Nikon Coolwalker is equipped with a mobile phone size screen and 30GB hard disk. The SmartDisk 40 GB FlashTrax is an MP3 player that can be connected to a TV for photo viewing and to a computer via USB. The list price for all three devices is around USD 500.

## Internet cafés

Modern Internet cafes offer a convenient service for a traveling photographer: while you are checking your email and surfing the Internet, you may burn your photos on CDs. Online photo albums, such as Shutterfly or Webshots, are a great way to share photos with friends and relatives, but you should always archive your original photos on CDs as well. Printing services for photos are also available at some Internet cafes.

## Photo labs

Well-equipped digitized photo labs can burn CDs for photographers on the road. The time and the effort to find a photo lab with a CD burning service will pay off if you need professional print-outs of your photos, or have to stock up on camera accessories.

## The length of your trip will determine the gear you need

The best photo storage method depends on the number of photos you tend to take, the length of your trip and where you intend to travel.

**A short trip that lasts for a few days** can be managed just by using memory cards. Knowing the number of pictures you typically take helps you to assess if the memory cards you already own will be sufficient for the trip. After the day's photographic efforts, take time to browse through the pictures and make room for new photos by eliminating the ones that are beyond the editing capabilities of your imaging software.

**For one or two week long trips**, we recommend using either A) memory cards in combination with visits to Internet cafes, or B) getting a portable CD burner or a multimedia player device. If you have a habit of taking a moderate number of pictures and will be traveling in a location where Internet cafes are easily accessible, you can cope with occasional visits to Internet cafés for burning a CD.



A traveler who snaps plenty of photos, or is traveling in a region where Internet cafes and photo labs are scarce, needs to get a portable CD burner, or a product like Archos Gmini 220 or SmartDisk FlashTrax. The benefit of burning CDs is that once the photos are on the CD, they are safely archived. The benefit of hard disk storage is the quick and convenient operation, huge capacity and use of the device as a music player and image viewer.

**For longer trips that last more than a few weeks**, the first priority is to have a plan for backing up photos. A reader who asked our advice for managing his photos on a one year journey around the world ended up with a plan for a large memory card and regular visits to Internet cafes. He will burn two copies of each CD: one CD to mail home and another to carry along. If you have a multimedia player with plenty of hard disk space, it is likely to be sufficient for photos of the whole trip, but even then you should visit Internet cafés for making backup CDs.

The storage capacity of digital camera memory cards is destined to increase and at the same time, prices should go in the opposite direction and decrease. Avid photographers, however, need more than memory cards for their journeys and are already using portable CD burners and multimedia players for storing photographs. For playing your memory cards right, a well planned combination of storage devices, café services and lab visits can take you from a short trip to a journey around the world with thousands of digital photos safely archived for future viewing.

Read it all at  
<http://www.avecmobile.com>

